UNDP

UNITED NATIONS

DEVELOPMENT

PROGRAMME

Distributed on request
DP/PROJECTS/7158

ENGLISH

APPROVAL OF UNDP ASSISTANCE TO A PROJECT OF
THE PEOPLE'S REPUBLIC OF KOREA

IPF:(1987-91) $19 730 000
(DRK/90/007) - Electric Power Management System

Date of approval by the AC:[1/]	16 October 1991
Expected duration:	Three years
Proposed executing agency:	Government
Government implementing agency:	Electric Power Production and Dispatching Control Centre
Proposed UNDP contribution:	$1 203 000 Source of funds: IPF
Government cost sharing:	$ 700 000
Total UNDP budget:	$1 903 000

Project background

The Government of the Democratic People's Republic of Korea has accorded highest priority to the capacity expansion of the power system. The current supply of power is insufficient to meet the growing demand for power, especially electric power to support the country's energy requirements. The current installed power generation capacity is 12,000 MW while maximum available capacity is 10,000 MW. While the Government's long-term strategy to expand the capacity of the power system is to increase the installed capacity to 19,000 MW by 1993 so that annual energy generated will be 100 billion KWH, its immediate priority is the need to optimize power supply system through the establishment of a modern electric power management system. Power is generated in hydro-electric plants and thermal plants in equal shares with coal being the main fuel utilized in thermal plants. Industry consumes about 60 per cent of total energy, Agriculture and transportation about 30 per cent and the remaining 10 per cent by the residential sector. It is estimated that the power deficit under the current pattern of utilization is at least 500 MW. Serious deficiencies both in installed generation capacity and the management, and distribution have affected power demand.

The Electric Power Production and Dispatching Control Centre (EPPDCC) in Pyongyang is the governmental body entrusted with the responsibility for monitoring and surveillance of the entire national power system including generation and transmission at voltage levels 110 KV and higher. In addition, the EPPDCC has the task of supervising 11 regional power dispatching centres.

The monitoring facilities provided presently are inadequate. They are slow and outdated

[1/] **This Fact Sheet reflects the status of the project/revision at the time it was approved by the Action Committee; modifications to the project/revision may have occurred subsequently.**

INDIANA UNIVERSITY LIBRARY

/...

in addition to being very limited (only three plants). The principal data collection means are telephones and telexes. This makes the functions required to be performed rather difficult, and does not permit planning, monitoring, and co-ordination activities to be conducted in an efficient manner. The situation can even be chaotic under emergency conditions when the power system is subjected to a disturbance and operator's intervention becomes crucial.

With respect to off-line computations, a second generation computer is being used at the EPPDCC for historical data recording and analysis. Its capability does not allow planning and logging activities to be processed. Hence, the Government has accorded a high priority to improving the reliability, quality and economy of the power supply to all sectors of the national economy and to the general population through the establishment of an effective supervisory and monitoring system.

A central theme of the new Country Programme for the Democratic People's Republic of Korea includes efforts to improve the efficiency in energy systems management, from the mining of coal, the adoption of cleaner coal technologies and promotion of alternate energy sources, and streamline distribution systems to increased conservation of energy.

Description of project

The development objective of the project is to establish an electric power monitoring/management system to optimize the national power supply system by: (i) setting up a Monitoring Control System (MCS) linking a master control centre with eight stations as a pilot project to be subsequently replicated by the Government; and (ii) upgrading the capabilities of national staff in EPPDCC in various disciplines of electric power management.

At the end of the pilot project an effective management system will be established with a core group of national engineers, technicians and programmers trained in computer based power management operation and maintenance. A feasibility study for follow up investment for inclusion of other stations into the MCS will also be available.

Inputs

UNDP will provide the services of a CTA for six man-months; eight man-months for a control system consultant; two man-months for a communications consultant in the field of electric power management; 30 man-months for experts in system design and field supervision of installation under a subcontract; 16 man-months of an overseas fellowship; four man-months for a study tour; 40 man-months for in-country training; monitoring control system equipment for electric power dispatching (under subcontract), office equipment; and miscellaneous costs.

Financial data

	$
Personnel	308 000
Subcontract	1 400 000
Training	120 000
Equipment	60 000
Miscellaneous	15 000
Total	1 903 000

- - - - -